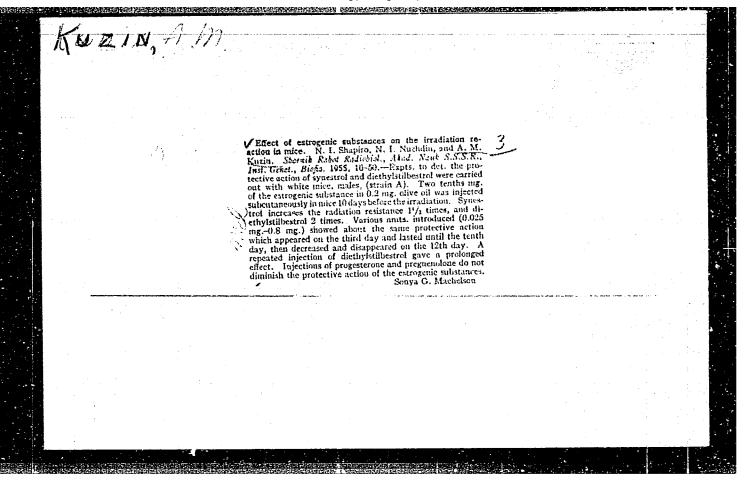
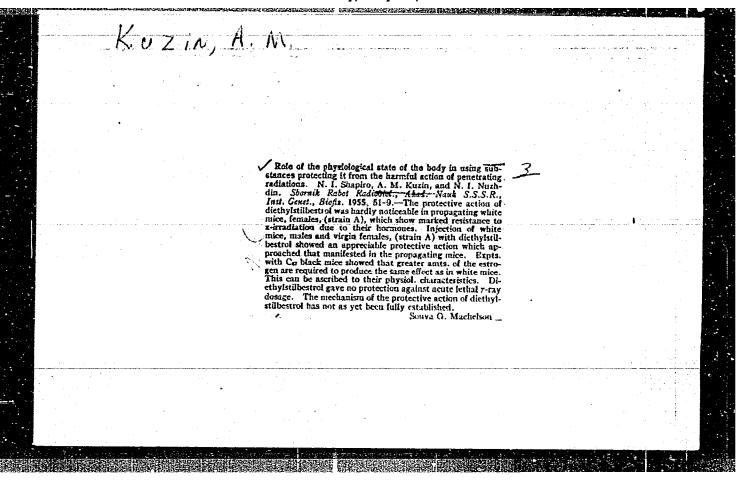
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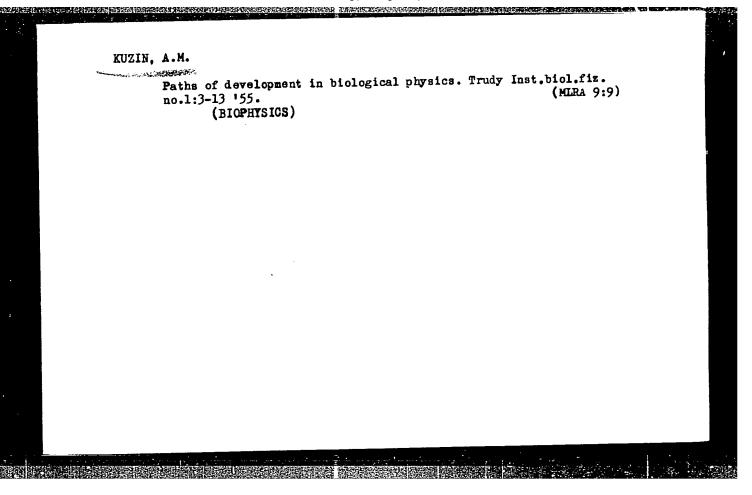
This paper was originally abstracted from the Russian, and appeared in Nuclear Science Abstracts as NSA 9-7675.		Kuzin, A.M	BIOCHEMICAL B. IONIZING RADIAT FERENCE OF TH JUSH ON THE PE JULY 1-5, 1955. CAL SCIENCE.	r-2435((IT. 4)(p.59-68)) ASIS OF THE <u>BIOLOGIC</u> FIONS. A. M. KULIA. P E ACADEMY OF SCIEN. ACEFUL USES OF ATO SESSION OF THE <u>DIVIS</u> Translation). 10p.	.59-68 of <u>CON-</u> CES OF THE MIC ENERGY. HON OF BIOLOGI-	400 cm	
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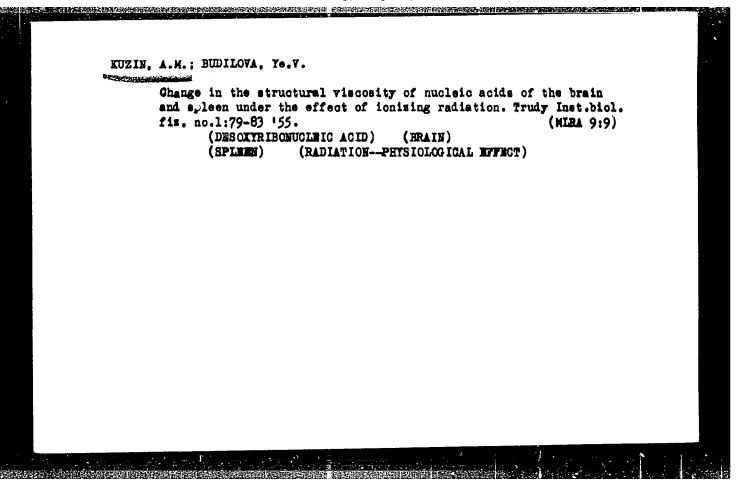


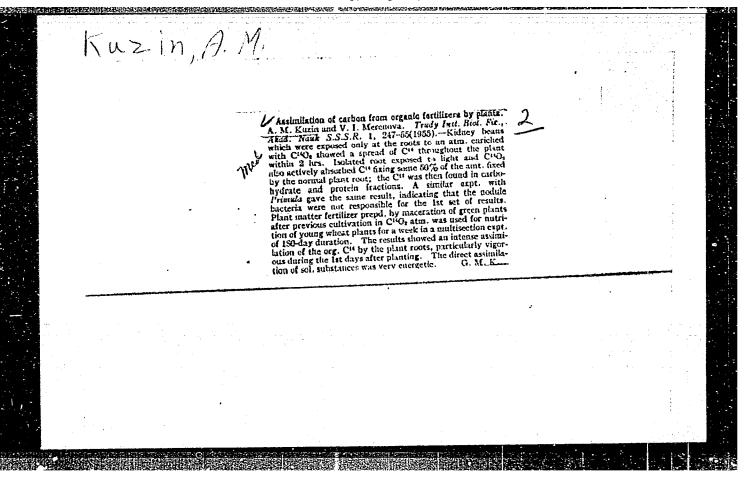
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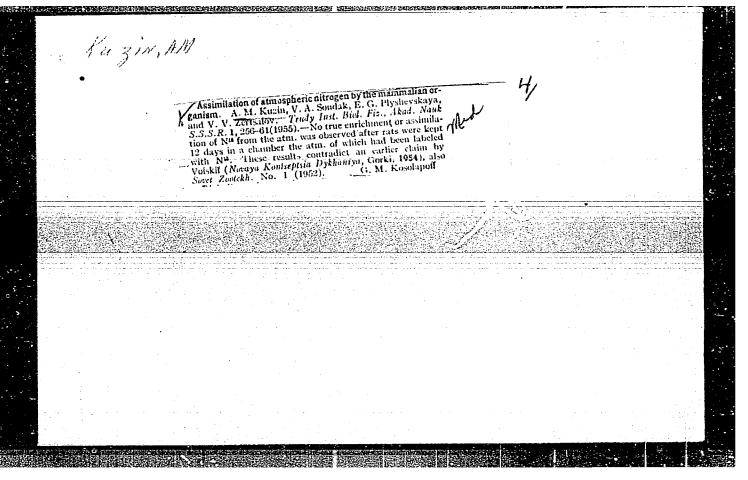
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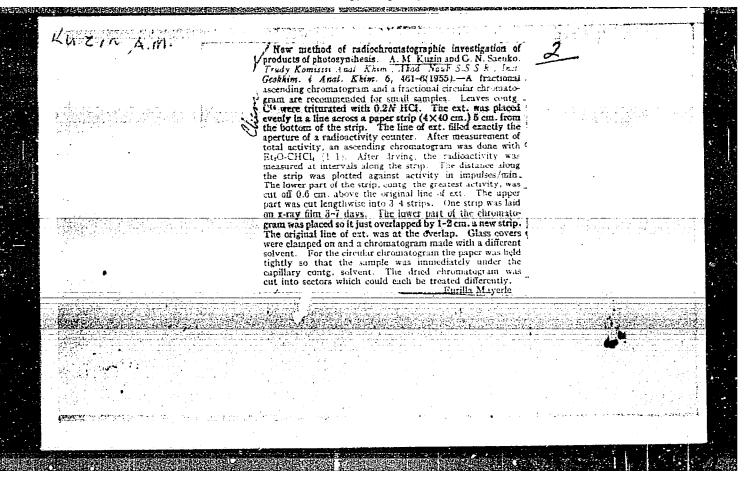


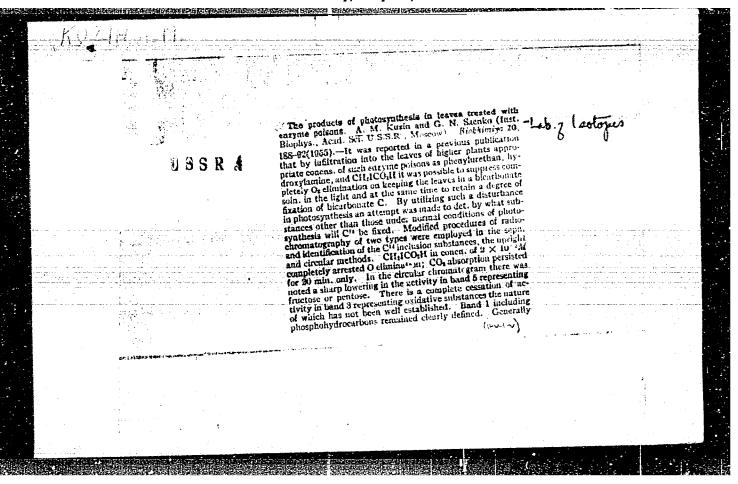


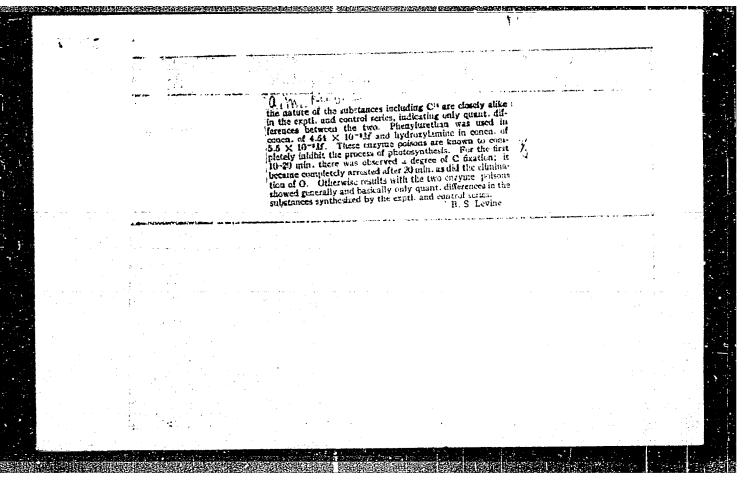












KuzIN,

USSR/ General Problems of Pathology. Tumors

U-4

Abs Jour

: Ref Zhur - Biol., No 5, 1958, 22996

Author

Kuzin, A.M., Sharoukhova, K.S., Chudinova, I.A.

Inst

Title

: The Effect of Tumor Extracts on Catalase and Coenzyme

A of the Livers of Normal Mice.

Orig Pub

: Biokhimiya, 1955, 20, No 1, 126-128

Abstract

: Aqueous extracts of the non-fat portions of the rat M-1 sarcoma, rabbit Brown-Peerce tumor and malignant tumors of the human stomach and uterus, were precipitated by alcohol. The alcoholic precipitate was dissolved in distilled water, using 1 ml. per 50 mg, and 0.5 ml. was injected intraperitoneally into each mouse. After 20 hours the mice were sacrificed and catalase activity and coenzyme A of the liver determined. The tumor extracts lowered the catalase activity, on the average, by 50%, and CoA by 40%. Extracts from normal

Card 1/2

USSR/. General Problems of Pathology. Tumors

U-4

Abs Jour

: Ref Zhur - Biol., No 5, 1958, 22996

APPROVED FOR RELEASE: Monday, July 31, 2000

CIA-RDP86-00513R00092801

stomachs failed to give this effect. During the purification procedure of the substance isolated from the tumor extracts, it was demonstrated that it passed through a collodion membrane, was absorbed by an anion exchange tar, probably had characteristics of a base and lowered the liver catalase by 70-75%. Similar fractions, obtained by the authors from the blood of a tumor bearing animal, have also depressed catalase and CoA levels to a significant extent.

Tagged atoms in biology. Mauka 1 zhizn' 22 no.4:29-32 Ap'55.
(MERA 8:6)

1. Direktor Instituta biologicheskoy fiziki Akademii nauk SSSR.

KUZIN, A.M.

USER/Biology - Plant physiology

Card 1/1

Pub. 22 - 20/59

THE RESIDENCE OF THE PROPERTY OF THE PROPERTY

Authors

* Kuzin, A. M.; Eydus, L. Kh.; and Strazhevskaya, N. B.

Title

* Studying, with the help of marked compounds, the effect of Roentgen

rays on certain properties of albumen and its synthesis

Periodical

1 Dok. AN SSSR 102/2, 267-270, May 11, 1955

Abstract

* Experimental studies of the effect of Roentgen rays on certain properties of albumen and its synthesis in plants are described. For the experiments, two-day old sprouts of wheat seeds were used. Nine references: 1 Brit., 1 Ital., 1 Scand., 2 USSR and 4 USA (1937-1955). Tables.

Institution

: Aced. of Sc., USSR, Institute of Biological Physics

Presented by : Academician A. I. Oparin, February 25, 1955

KUZIN, AM.

USSR/ Biology - Conferences

Card 1/1 Pub. 124 - 7/25

Authors : Sisakyan, N. M., Kemb. Corres., Acad. of Sc., USSR, and Kuzin, A. H., Prof.

Title : Certain problems of radiobiology

Periodical : Vest. AN SSSR 25/12, 43-51, Dec 1955

Abstract : Minutes are presented from the International Conference on peacetime utilization of atomic energy held during August 8-20, 1955, in Geneva, Switzerland. Various problems of radiobiology and its applications are

discussed. One USSR reference (1950).

Institution:

Submitted :

KUZIN, A.M.

Voprosy Radiobiologii (Problems of Radiobiology), under the editorship of M. N. Pobedinskiy and P. N. Kiselev, Medgiz, 1956, 427 pp (from Meditsinskiy Rabotnik, 23 Oct 56)

This collection is devoted to a study of the action of ionizing radiations on the live organism on the basis of studies of the laboratory of the Central Scientific Research Roentgeno-Radiological Institute. (U)

Ocherki po Radiobiologii (Essays on Radiobiology); Prof A. M. Kuzin, editor in chief; Moscow, Publishing House of the Academy of Sciences USSR, 1956, 312 pp

This collection of essays includes the following: "The Biochemical Basis of the Biological Action of Ionizing Radiation," by A. M. Kuzin. up 5-96; "Experimental Study of the Action of Ionizing Radiation of Manmals," by N. I. Shapiro, pp 97-150; "The Nervous System and Ionizing Radiation," by N. N. Livshits, pp 151-232; and "Morphological Changes of the Nucleus by N. N. Livshits, pp 151-232; and "Morphological Changes of Radiation," by L. P. and Chromosomes Under the Action of Various Types of Radiation," by L. P. Breslavets, pp 233-311. (U)

KUZIN, A. M. and Ye. V. Budilova

AND DESIGNATION OF THE PERSON OF THE PERSON

"Concerning Changes in the Structural Viscosity of Nucleic Acids of the Brain and of the Spileen under the Effect of Ionizing Radiation"

Trudy Instituta Biologicheskov Fiziki, No 1, 1956 S916, 5 Mar 1956

ter /

TUZIN, A.M.

14-57-6-12815 Translation from: Referativnyy zhurnal, Geografiya, 1957, Nr 6,

p 145 (USSR)

AUTHORS: Kuzin, A. M., Peredel'skiy, A. A.

TITLE: Conservation and Relation of Radioactivity to Ecology (Okhrana prirody i nekotoryye voprosy radioaktivno-

ekologicheskikh svyazey)

PERIODICAL: Okhrana prirody i zapoved. delo v SSSR, 1956, Nr 1,

pp 65-78

ABSTRACT: The authors define radiation ecology and explains why

the interest in this subject is becoming more widespread at this time. They coffer a brief historical sketch of the development of radiobiology, and emphasize the exceptional importance of observing the direct effect of radiation on living organisms. They report the data obtained by Japanese investigators,

showing the sequence of organisms affected by

Card 1/2

Kuzin AM.

USSR / General Biology - Physical and Chemical Biology.

Abs Jour: Ref Zhur-Biol., No 9, 1958, 37914.

: Kuzin, A. M. Budilova, E. V.

Inst : Not given.

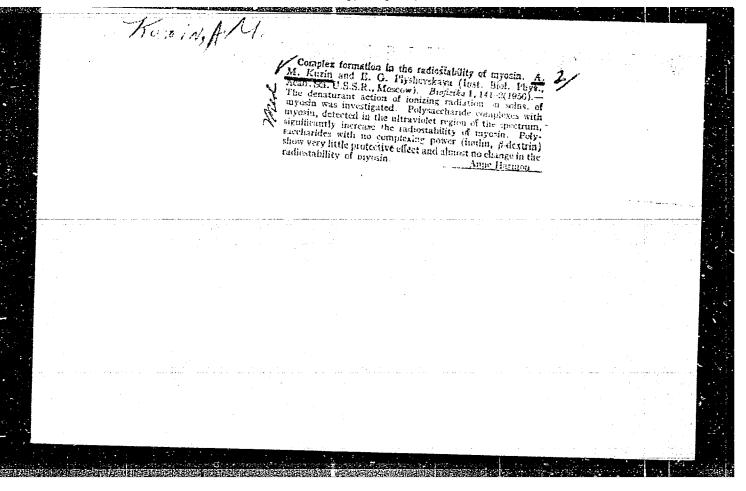
Title : Sensitization of Radiolytic Depolymerization of

Desoxyribonucleic Acid.

Orig Pub: Biofizika, 1956, 1, No 1, 57-59.

Abstract: Increasing the pH of the medium from 7 to 8.6 reduced depolymerization of DNA obtained from calf cervical gland, when an 0.2% solution was subjected to x-irradiation. Of Cl, I, Mg, Co, and Fe ions in a concentration of 3.3 . 10-4 M (FeCl3), only the addition of Fe caused a considerable sensitization o. DNA and the Depolymerization activity of ionizing radiation: when DNA solutions were irradiated by 5000 r in the presence of Fe, a complete loss of viscosity was

Card 1/2



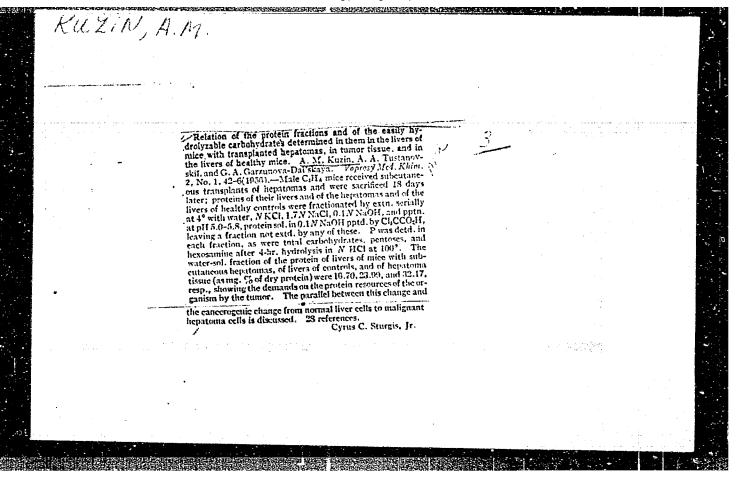
KUZIN, A.M.; STRAZHEVSKAYA, N.B.

Effect of ionizing radiation on the permeability of plant tiesue.

Biofisika 1 no.7:637-641 *56. (MIRA 9:12)

1. Institut biologicheskoy fiziki Akademii nauk SSSR, Moskva.
(PLANTS, EFFECT OF RADIATION ON)
(PERMEABILITY)

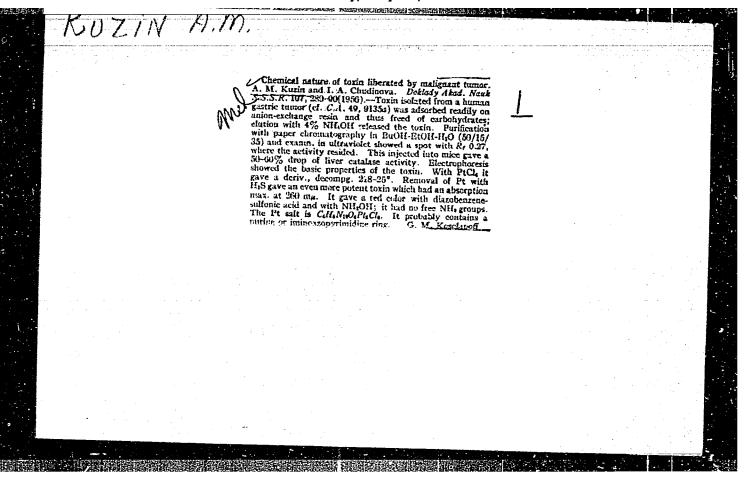
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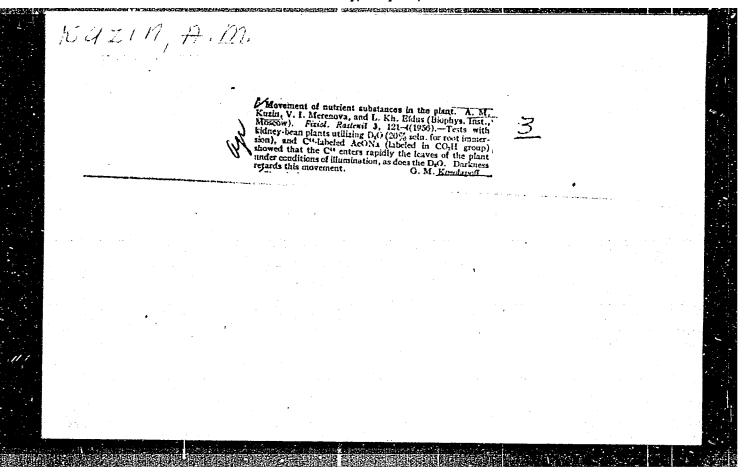


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KUZIW, A.M.; ROMANCVA, I.M.
       Comparative study of liver proteins and transplanted hepatoma.
      Vop.med.khim. 2 no.2:96-102 Mr-Ap 156.
                                                               (MIRA 9:9)
      1. Laboratoriya biokhimii Instituta eksperimental'noy patologii i
       terapii raka AMN SSSR.
              (LIVER, metabolism,
                 proteins, comparison with proteins in transplanted
                 hepatoma (Rus))
             (PROTEINS, metabolism,
                 exper. hepatoma tumor tissue & normal liver (Rus))
             (HEPATOMA, experimental,
                 proteins in tumor tissue, comparison with normal
                 liver (Rus))
             (NEOPLASMS, experimental,
                 hepatoma, proteins in tumor tissue, comparison with
                 notmal liver (Rus))
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"APPROVED FOR RELEASE: Monday, July 31, 2000

CIA-RDP86-00513R000928010





THE REPORT OF THE PROPERTY OF

MUZIN. Aleksandr Mikhaylovich, doktor biologicheskikh nauk, professor; USPENSKAYA, M.V., redaktor; ISIEHT IEVA, P.G., tekhnicheskiy redaktor

[Use of radioactive isotopes in biology and agriculture] Ispol'sovanie radioaktivnykh isotopov v biologii i sel'skom khoziaistve.

Moskva, Isd-vo "Znanie," 1956. 37 p. (Vsesciusnoe obshchestvo po rasprostraneniiu politicheskikh i nauchnykh snanii. Ser. 3, no.21)

(Radioisotopes)

TOLARSKAYA, V.I. (Merenova); KUZIN, A.M.

Metabolism of scetate-1-G¹⁰ absorbed by plant roots [with English summary in insert]. Biokhimiia 21 no.6:816-825 M-D '56. (MIRA 10:7)

1. Institut biologicheskoy fiziki Akademii nauk SSSR, Moskva. (ACETIC AGID) (PLANTS-ASSIMILATION)

(PLANTS, EFFECT OF LIGHT ON)

"A total label of the organic substances of a plant by radioactive carbon as a method of studying metabolic distrubunces," a paper substitted at the International Conference on Radioisotopes in Scientific Research, Paris, 9-20 Sep 57

KUZIN, A.M., obshchiy red.

[Radiobiology; biological effect of ionising radiation]
Radiobiologia: biologicheskoe deistvie ionisiruiushchikh
isluchenii. Moskva, 1957. 434 p. (Itogi nauki: Biologicheskie
nauki, 1) (HIRA 12:6)

1. Akademiya nauk SSSR. Institut nauchnoy informatsii. (RADIATION--PHYSIOLOGICAL EFFECT)

USSR / Human and Animal Physiology. The Effect of Physical Factors. Ionizing Irradiations.

Abs Jour: Ref Zhur-Biol., No 22, 1958, 102351.

Kuzin, A. M. Author

: Biochemical Changes in the Organism Under Influence Inst

Title of Ionizing Irradiations.

Orig Pub: Tr. Vses. konferentsii po med. radiol. Eksperim.

med. radiol. M., Medgiz, 1957, 3-6.

Abstract: The initial physico-chemical processes which lie at the bottom of the biologic effect of ionizing irradiations are dealt with on the material of author's own investigations and data in the literature. The picture of the initial biologic shifts in the 'rradiated organism is described. The fu-

tility of attempts to approach the explanation of

Card 1/3

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Card 3/3

123

"APPROVED FOR RELEASE: Monday, July 31, 2000

CIA-RDP86-00513R000928010

KUZIN, A.M.; STRAZHEVSKAYA, N.B.

Blochemical effect of ionizing radiation. Itogi nauki.Biol.nauki
(MIRA 11:3)

150-99 '57.
(RADIATION_PHYSIOLOGICAL EFFECT)

(Itogi Nauki Biologicheskikh Nauki)
(Achievments of Science: biological Science)

I

USSR / Plant Physiology. Photosynthesis

Abs Jour

ECREPORTER AND DESCRIPTION OF THE PROPERTY OF

: Rof Zhur - Biol., No 8, 1958, No 34237

Author

: Strazhevskoya, N. B.; Kuzin, A. M.

Inst

: AS of USSR

Title

: On the Effect of Ionizing Radiation on Metabolism of Phosphorous-Containing Compounds in the Roots of Wheat.

Orig Pub

: Biofizika, 1957, No 1, 79-85

Abstract

: Roots of germination of winter wheat Lyutestsens 062 have been irradiated by X-rays dosis of 1,000 r and kept for 1 to 4 hours in a radioactive solution of sodium phosphate (0,1-0,3 mc/ul). The activity of P32 was established in the following fractions: nuclein acids, phosphoric esters, hydrocarbons and mixed lipoid-carbonic. One hour after irradiation, a delay of the inflow of P32 was observed in all fractions. 2 and 4 hours after irradiation, an increase in inculcation of $p3^2$ was observed into the

Card 1/2

USSR / Plant Physiology. Photosynthesis.

I-1

Abs Jour

: Rof Zhar - Bioli, No 17, 1958, No 77265

Author

: Kuzin, A. M., Sayonko, G. n.

Inst

: Not givon

Titlo

: On the Nature of Substances That Fix CO2 in Photosynthesis.

Orig Pub

: Biofizika, 1957, 2, No 3, 313-317.

Abstract

: Leaves of the spiderwort were placed in a chamber with $\mathrm{C}^{14}\mathrm{O}_2$ and exposed to light for five seconds, after which they were fixed in liquid nitrogen, ground with dry CO2 and neutralized with Mg(OH)2. The substances dialyzed against distilled water at 00 were analyzed by the radiochrometographic mothod. The fixing of CO2 in the process of photosynthosis was present in the dialyzable substances. In Spite of the mild conditions of the experiment, more highnolocular substances were not found. Even in the first seconds, C14 was found in a sorios of substances that

Card 1/2

USSR / Human and Animal Physiology. The Effect of Physical Factors! Ionizing Irradiations.

T

Abs Jour: Ref Zhur-Biol., No 22, 1958, 102352.

Author : Kuzin, A. M.

Inst: Not given:

Title: The Influence of Ionizing Irradiations on Sorptive
Properties of the Tissues of Various Organs in vivo.

Orig Fub: Biofizika, 1957, 2, No 3, 318-326.

Abstract: To white rats, at various times after general irradiation with 1000 r, 1.0-1.5 ml of a colloidal solution of marked P32 chromium phosphate (I), marked I131, serous globulin (II) or Agllo with activity of 0.5 mu-curies was introduced intravenously. The animals were killed after 2 hours when blood activity approached 0. In all cases the basic mass of the colloids was sorbed by the liver

Card 1/3

Physical Factors. Ionizing Irradiations.

Abs Jour: Ref Zhur-Biol., No 22, 1958, 102352.

APPROVED FOR RELEASE: Monday, July 31, 2000 CIA-RDP86-00513R00092801

Abstract: (L) and considerably less by other organs. Expressed in percentages, with respect to control values for nonirradiated animals in which L absorbed about 70% of the introduced activity, the sorption capacity of L in respect to I consisted of 92% 2 hours after irradiation, 71% after 24 hours and 56% after 48 hours; with respect to II, correspondingly 86%, 76% and 80% and with respect to Agllo 97%, 72% and 88%. Analogous results were obtained in passing the colloid solution of Agllo through the surviving L of the rat, which was isolated 2, 24, and 48 hours after irradiation. The fall of sorptive capacity of L was conditioned by the changes of physicochemical properties of the protoplasm of Kupffer's cells (depolymerization of its high-

Card 2/3

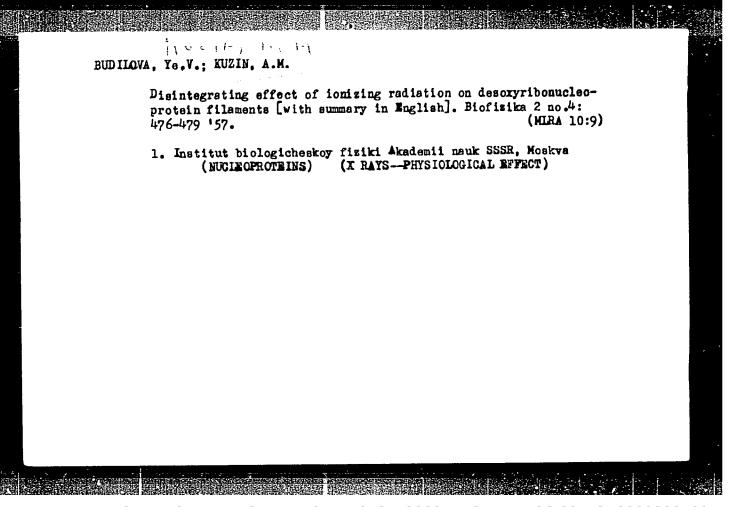
124

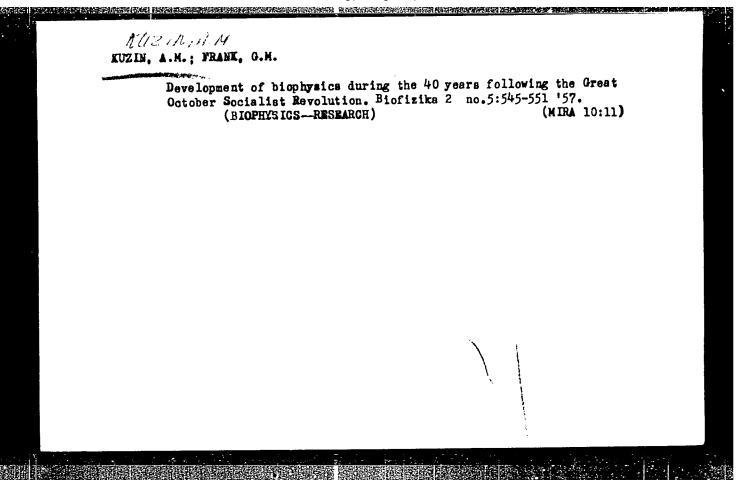
USSR / Human and Animal Physiology. The Effect of Physical Factors. Ionizing Irradiations.

T

Abs Jour: Ref Zhur-Biol., No 22, 1958, 102352.

Abstract: polymeric components). A partial increase of the





KUZIN, A.M.

USSR/General Biology. Physical and Chemical Biology

: Ref Zhur-Biol., No 13, 1958, 57042 Abs Jour

: Kuzin A. M. Author

: Not given Inst

: Biological Affect of Ionizing Radiation in the Title

Light of Contemporary Views on the Nature of

EARL SEAST COURSE BEST AND DESCRIPTION TO THE OWNER OF THE OWNER OWNE

DNA /Desoxyribonucleic Acids/

: Izv. AN SSSE, sor. Biol., 1957, No 3, 273-284 Orig Pub

: The significance of complexely formed protein Abstract

systems in the life of organisms is noted. The presence of high polymer nucleoproteids is a necessary condition. Different polymers--monotone lineal and branched with a limited modified structural unit, and finally endlessly varying polymers (proteins, nucleic acids, glucoproteids,

and others) which are more important to life are

Card 1/3

USSR/General Biology, Physical and Chemical Biology

APPROVED FOR RELEASE: Monday, July 31,52,009,7042 CIA-RDP86-00513R00092801

Abstract

: examined. Nucleoproteids, the complex polymers, are given in conclusion because of their complexity and importance; they contain information on the factors which are necessary for individual development. orks on the structure of DNA are cited. High polymer DNA are ensity depolymerized under the influence of radiation and chemical mutagenes. However, in small doses a breakdown of only the hydrogen bonds is observed, an action which preceeds the synthesis of DNA in the live cells. They therefore facilitate the origin of mitoses, a fact which explains their stimulating effect. An analysis is given of the mechanism of the decomposition of the polynucleotide chain under the influence of HO, radicals which form along the path of the ionizing particle. In cases of large doses the

Card 2/3

CIA-RDP86-00513R000928010 "APPROVED FOR RELEASE: Monday, July 31, 2000

KGN,AM.

AUTHOR:

KUSIN, A.M.

89-8-25/26

TITLE:

Radiobiological Investigations at the Biological Institute or the Academy of Science of the U.S.S.R. in 1956. (Radiobiologichesktye issledovaniya v institute biologicheskov fiziki A.N.SSSR v

1956 . Russian

PERIODICAL:

Atomnaya Energiya, 1957, Vol 3, Nr 8, pp 178-180 (U.S.S.R.)

ABSTRACT:

The following main problems were investigated in the above

mentioned Institute: a) What physical-chemical structural changes occur in the tissue

shortly after irradiation ? b) The influence exercised by radiation on the central nervous system.

A total of 25 works was published by the Institute mentioned;

ASSOCIATION:

PRESENTED BY:

SUBMITTED:

AVAILABLE:

Not given

Library of Congress

Card 1/1

KUZIN, A.M.

"The Biochemical Bases of the Biological Effect of Ionizing Radiation," by A. M. Kuzin, Naturwissenschaftliche Beitraege, No 4, Apr 57, pp 323-352

The article, which includes several tables and graphs, discusses the effect of ionizing radiation on water, the mechanism of primary ionization, secondary reactions in water, the effect of ionizing radiation on simple proteins, the effect of ionizing radiation on complex proteins, the effect of ionizing radiation on lipoids, the effect of ionizing radiation on encurrence and vitamins, and the influence of ionizing radiation on metabolism.

The original source given for the article is A. M. Kuzin, Biokhimi-cheskiye Osnovy Biologicheskogo Deystviya Ioniziruyushchey Radiatsi (Biochemical Basis of the Biological Effect of Ionizing Radiation); the article was translated into German by F. Bartels and is to be continued in Natur-wissenschaftliche Beitraege, No 5, May 1957. (U)

54M. 1374

KUZIN, A.M.

AUTHOR: None Given

25-12-18/39

TITLE:

Isotopes Serve Science (Izotopy sluzhat nauke)

PERIODICAL:

Nauka i Zhizn', 1957, # 12, pp 25-29 (USSR)

ABSTRACT:

The international conference on the use of radioactive isotopes was held in Paris in September 1957. The Soviet delegation of 61 Soviet scientists was headed by A.V. Topchiyev, Senior Scientific-Secretary of the USSR Academy of Sciences. The Soviet scientist A.M. Kuzin lectured on radio isotopes and biological research. Of a total of 206 reports, 49 were delivered by Soviet scientists. The report by Member-Correspondent of the USSR Academy of Science, E.M. Kreps on the protein metabolism rate in the nervous system in different stages of evolution by means of phosphorus isotopes was met with great interest. Several reports dealt with radioactive carbon entering into the compound of radioactive carbon dioxide which aided to clarify the question of photosynthesis. Academician V.M. Klechkbyskiy of VASKhNiL, and I.V. Gulyakin lectured on problems of radioactive contamination. It has been established that special attention must be given to strontium 90 and cesium 137, which as a result of fission, form heavy nuclei and show prolonged radiation activity. Ruthenium and zirconium were mentioned as other radioactive elements of importance.

Card 1/3

Isotopės Serve Science

25-12-18/39

Candidate of Technical Sciences, V.I. Serenkov reported on the work of the physical section pertaining to the production of radioisotopes. The reports of M.S. Petrova and other Soviet scientists about new methods of producing alpha, beta and gamma sources, as well as the report of V.I. Spitsyn on the method of extracting and concentrating cesium 137, met with great interest. K.K. Aglintsev and other Soviet scientist lectured on the results of investigations of electronic spectrums in dosimetry of beta and gamma radiation. The French scientists Benar and Loran together with the Soviet scientist A.N. Murin lectured on new processes of ion diffusion in polar crystalls and the movability of ions depending on their charge. The studies of V.S. Vavilov and other Soviet scientists on the activity of nuclear radiation of semi-conducting materials are of great importance for solving the problem of transforming energy from nuclear radiation into electrical energy. The Soviet scientist V.I. Kuznetsov read a report on the use of organic reagents as catalyzing precipitators for the elimination of small quantities of admixtures, which is of paramount importance for controlling the purity of semiconductors. The Soviet scientist V.I. Spitsyn spoke on the use of isotopes for analysing the structures and properties of inorganic substances,

Card 2/3

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Isotopes Serve Science

25-12-18/39

so-called heteropolycompounds, used for the manufacture of antibiotics as well as for the separation (fission) and cleaning of radioactive isotopes. A.P. Vinogradov reported on studies of the isotopic composition of the earth's crust and meteorites. There are 2 drawings.

AVAILABLE:

Library of Congress

Card 3/3

HUZIM, MINI

AUTHOR:

None given.

30-9-2/48

TITLE:

A Declaration of Scientists Participating in the Conference at Pugwash (Zayavleniye uchenykh - uchastnikov konferentsii v Paguoshe).

PERIODICAL:

Vestnik AN SSSR, 1957, Vol. 27, Nr 9, pp. 7 - lo (USSR).

ABSTRACT:

The conference of atomic physicists which took place in Canada on July 6 - lo dealt with the dangers of the utilization of atomic energy for military purposes. Renowed physicists, such as M. L. Ye. Olifant (Australia), G. Tirring (Austria), Ye. Rabinovich, V. Silov, L. Stsillard, V. Vayskopf (USA), S. Foster, Brok-Chizkholm (Canada), S. Tamonaga (Japan), Chzhou-Pey-Yuan' (China), A. M. B. Lakassan' (France), Ye. Kh. S. Burop (Great Britain), A. N. Kuzin, D. V. Skohel'tsyn, A. V. Topchiyev (USSR) and others participated in it. The conference unanimously approved of a declaration which states that due to the development of the utilization of atomic energy two international problems rose: a mechanical and a political one. A conference of scientists is due to its competence in a position to evaluate the consequences of the utilization of atomic energy. It is finally pointed out that such conference - consultations will only then be conducive to success when the purely political problems will also be taken into account. The work of the conference concentrated

Card 1/2

KUZIN, A.H., prof., otvetstvennyy red.; LIVSHITS, N.N., red.; SHAPIRO, F.B., red.; EYDUS, L.Kh., red.; IOFFE, V.G., red.izd-va; POLYAKOVA, T.V., tekhn.red.

[Radiobiology; proceedings of a conference] Radiobiologiia; trudy konferentsii. Moskva, Izd-vo Akad. nauk SSSR, 1958. 286 p.
(MIRA 11:5)

l. Vsesoyuznaya nauchno-tekhnicheskaya konferentsiya po primeneniyu radioaktivnykh i stabil'nykh izotopov i izlucheniy v narodnom khozyaystve i nauke, 1957. 2. Institut biofiziki AN SSSR (for Kuzin)

(RADIATION--PHYSIOLOGICAL EFFECT)

KUZIH, A.H.: KRUSANOVA, N.I.: KRASOVSKAYA, A.I.

Changes in the structural viscosity of desoxyribonucleoproteins of rat sarcona 45 treated in vivo with chemotherapeutic agents. Vop.onk. 4 no.2:146-150 '58. (MIRA 12:8)

1. Iz Instituta eksperimental'noy patologii i terapii raka (dir. -chlen-korrespondent AMN SSSR prof.N.N.Blokhin) Adres avtorov:
Moskva, 3-ya Meshchanskaya ul., d.61/2, korp 9, Institut eksperimental'noy patologii i terapii raka.

(NITROGEN MUSTARDS, eff.

bis- β-chlorosthylamine group on structural viscosity of tumor tissue desoxyribonucleoproteins in rat sarcoma 45 (Rus))

(NUCLEOPROTEINS, metab.

desoxyribonucleoproteins in tumor tissue of rat sarcoma 45, eff. of bis-G-chloroethylamine group on structural viscosity (Rus))

(NEOPLASMS, metab.

tumor tissue desoxyribonucleoproteins in rate sarcoma 45, eff. of bis-\$\beta\$-chloroethylamine group on structural viscosity (Rus))

IVANITSKAYA, Ye.A.; KUZIN, A.M.; MAMUL', Ye.V.; SHABADASH, A.L.

Changes in the sorption properties of the liver following whole-body X irradiation [with summary in English]. Biofizika 3 no.2:220-225 '58. (MIRA 11:4)

1. Institut biologicheskoy fiziki AN SSSR, Moskva. (LIVER) (X RAYS--PHYSIOLOGICAL EFFECT)

"Some Current Problems in Radiobiology,"

Bulletin of the Atomic Scientists,
Vol. 14, No. 1, Jan. 1958. (Chicago, Ill.)

Inst. Biophysics, Acad. Sci. USSR, Moscow

AUTHORS:

Kuzin, A. M., Budilova, Ye. V.

307/20-120-2-39/63

TITLE:

On the Ability of Desoxyribonucleic Acid to Stimulate Oxidative Phosphorylation Following Irradiation (O sposobnosti dezoksiribonukleinovoy kisloty stimulirovat' okislitel'noye fosforilirova-

nije posle obluchenija)

PERIODICAL:

Doklady Akademii nauk SSSR, 1958, Vol. 120, Nr 2,

pp. 361 - 363 (USSR)

ABSTRACT:

It was proved in numerous works that in different tissues the process of oxidative phosphorylation is disturbed under the influence of ionizing radiation. This manifests itself in the reduced ability of the respective tissue to form phosphorus compounds rich in energy (References 1-5 and others). Further it is known that the synthesis of nucleic acids and their structure is disturbed by irradiation. The they are the most radio-sensi-

tive systems of the living cell, among thom above all desoxyribonucleic acid (DNA). The problem wises whether a connection exists between the changes of these two systems. It was interesting to investigate the dependence of the change of exidative phosphorylation in the tissues of an irradiated animal on the presence of

Card 1/4

On the Ability of Desoxyribonucleic Acid to Stimulate 30 1/20-120-2-39/63 Oxidative Phosphorylation Following Irradiation

a native high-polymer DNA. For comparison the influence of the DNA injured by ionizing radiation upon the same process was followed. White rats were used for this. In the series of experiments I with liver-preparations of the non-irradiated control animals the level of oxidative phosphorylation under given conditions was determined (figure 1 A). An addition of DNA to this suspension of "mitochondria" which contained a small amount of normal nuclei did not lead to any change of this level. In series II (figures 1-3 B) it was determined that the irradiation of rats with X-rays (dose 1000 r) leads to the suppression of oxidative phosphorylation in the suspension of "mitochondria" which was produced of the liver of these animals 24 hours after irradiation (in agreement with reference 5). The respiration of the tissue was not changed in this connection (figure 3 B), whereas the binding of inorganic phosphorus and the ratio P/O on the average was reduced more than 3-fold (figures 1 B, 2 B). In the next series DNA was added and in the last series DNA irradiated 24 hours before the experiment by γ -rays of co^{60} (100 000 r). On the basis of the obtained results it can be said that the native non-irradiated DNA is

Card 2/4

On the Ability of Desoxyribonucleic Acid to Stimulate 207/20-120-2-39/63 Oxidative Phosphorylation Following Irradiation

THE THE PROPERTY OF THE PROPER

able to stimulate the oxidative phosphorylation in a mitochondria-suspension of the liver of irradiated animals. The irradiation
of the DNA-solution which leads to its depolymerization and
partial destruction annulls the last-mentioned influence of
DNA. Further may be seen from it that still undetermined bindings
exist between the nuclear DNA and the oxidative phosphorylation
of mitochondria. The assumption becomes probable that the change
of nucleic acids is in connection with a simultaneously occurring
disturbance of the oxidative phosphorylation in the irradiated
cells. There are 3 figures and 9 references, 3 of which are
Soviet.

ASSOCIATION:

Institut biologicheskoy fiziki Akademii nauk SSSR (Institute

of Biological Physics, AS USSR)

PRESENTED:

January 21, 1958, by L. S. Shtern, Member, Academy of

Sciences, USSR

SUBMITTED:

January 15, 1958

Card 3/4

KUZIN, A.M., KRUSANOVA, H.I., KRASOVSKAYA, A.I.

Effect of chemotherapeutic agents on the structural viscosity of desoxyribonucleoproteins in rat sarcoma 45 in vivo. Report No.2. Vop.onk.4 no.3:276-279 *58 (MIRA 11:8)

1. Iz Instituta eksperimental'noy patologii i terapii raka (dir.chlen-korrespondent AMN SSSR, prof. N.N. Blokhin). Adres avtorov:
Moskva, 3-ya Meshchanskaya ul., d.61/2, korp.9. Institut eksperimental'
noy patologii i terapii raka.

(GYTOTOXIC DRUGS, effects,

on exper. sarcoma 45. changes of structural viscosity of desoxyribonucleoproteins (Rus))

(NUCLEOPROTEINS, metabolism,

desoyxribonucleoproteins in exper. sarcoma 45. eff. of cytotoxic drugs on structural viscosity (Rus))

(SARCOMA, experimental.

rat sarcoma 45. eff. of cytotoxic drugs on structural viscosity desoxyribonucleoproteins (Rus))

KUZIN, A.M., SUN' CHI [SUN CH'IH], SAYENKO, G.N.,

Functional radiosensitivity of chloroplasts [with summary in English],

Biofizika 3 no.3:325-331 '58 (MIRA 11:6)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.
(PLANTS, KFFECT OF RADIATION ON)
(CHROMATOPHORES)

Ko 214 11,71.

MAMUL!, YR.V., ORLOVA, L.V., SHUVATOVA, T.F., KUZIN, A.M.

Radioautography of frozen tissues [with summary in English].

Biofizika 3 no.5:591-596 '58 (MIRA 11:10)

1. Institut biologicheskoy fiziki AN SSSR, Moskva. (RADIOAUTOGRAPHY.

of frozen tissues (Rus))

EUZIN, A.M.; BAKH, N.A.; MEYSEL', M.N.; POBEDINSKIY, M.N.; PETROV, V.A.

Work at the International Congress on Radiological Research.
Blofizika 3 no.6:746-754 '58. (MIRA 12:1)
(BURLINGTON, VT.--RADIOLOGY--CONGRESSES)

AUTHOR:

Kuzin, A.M., Professor (Moscow)

SOV-26-58-8-6/51

TITLE:

What Scientists are Anxious About (Chem ozabocheny uchenyye)

PERIODICAL:

Priroda, 1958, Nr 8, pp 38-40 (USSR)

ABSTRACT:

In August 1955, Bertrand Russel organized, in London, a conference of scientists concerned with the danger of atomic bomb tests. In July 1957, in Pugwash, Canada, another conference on the same subject took place. A committee elected at this conference convened a second conference in Canada in April 1958 in which many scientists from several countries, most of them from the USA, took part. The conference analyzed the present situation. It was stated that the continuation of the atomic bomb tests leads to an increase of the radioactivity on the earth as well as in the human organism. The problem of "clean" atomic bombs was also discussed. Another conference is to be convened in Vienna in September 1958.

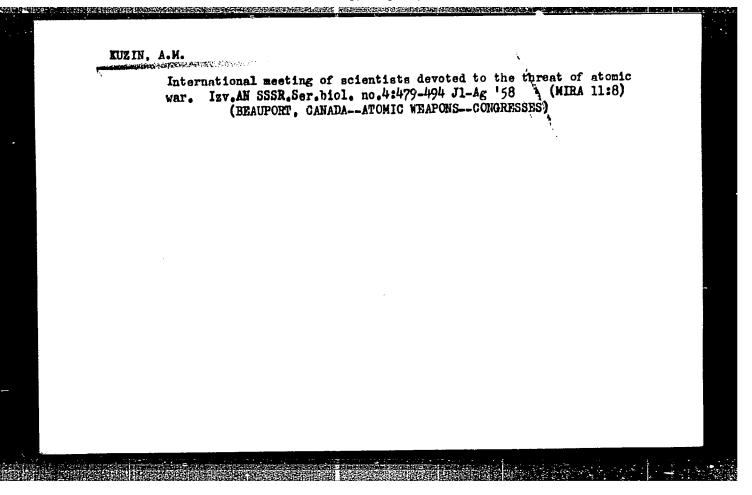
1. Atomic bomb explosions--Hazards

Card 1/1

KUZIN, A. M. and IVANITSKAYA, Ye. A.

"The Influence of Ionizing Radiations on Sorbtion Ability of i issues and Cells in $^{Vivo."}$

paper presented at the Intl. Congress on Radiation Research, Burlington, Vermont. 10-16 Aug 58.



KUZIN, A. M. and SHABADASH, A. L.

"On the Significance of Changes in Native State of Nucleoproteins in Radiation Injury."

paper to be presented at 2nd UN Intl.' Conf. on the peaceful uses of Atomic Energy, Geneva, 1 - 13 Sept 58.

CIA-RDP86-00513R000928010 "APPROVED FOR RELEASE: Monday, July 31, 2000

Kuzin, A.M.

AUTHOR:

None Given

SOY/30-58-7-15/49

TITLE:

Co-Operation of Scientists in the Struggle Against Atomic War (Sourudnichestvo uchenykh v bor'be s opasnost'yu yadernoy Canada

voyny) On the Results Obtained at the Conference in Lac Beauport/,

(K itogan konferentsii v Lak-Boporte)

PERIODICAL:

Vestnik Akademii nauk SSSR, 1958, Nr 7, pp. 82 - 85 (USSR)

ABSTRACT:

This international conference took place in Lac Beauport, Canada province of Quebec (Kvebek) March 31 to April 11. The aim of the scientists from Australia (Avstraliya), Canada, the Chinese People's Republic (Kitayskaya Narodnaya Respublika), France (Frantsiya), Germany (Germaniya), Great Britain (Velikobritaniya), USSR (SSSR), USA(SShA) attending this conference, was to determine acceptable means for reducing the danger of war for all countries and to reduce the tensions in international re-Chou Pei-yuan of the Chinese lations. Amongst others, Professor People's Republic, Professor A.M.Kuzin, the members, Academy of Sciences, USSR, D.V.Skobel'tsyn, A.V.Topchiyev, A.P.Vinogradov took part in this conference. In 1955, a declaration signed by

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Co-Operation of Scientists in the Struggle Against SOV/30-58-7-15/49 Atomic War. On the Results Obtained at the Conference in Lac Beauport

Bertrand Russell (Bertran Rassel), Albert Einstein (Al'bert Eynshteyn) and 9 other scientists, in which attention was drawn to the danger involved in the production of arms of mass extermination and which contained an appeal to call a conference of scientists, was published. Such a conference which was attended by 22 scientists, was called in July 1957 in Pugwash, Canada, province of Nova Scotia (Novaya Shotlandiya). A declaration was published and a permanent committee in which D.V.Skobel'tsyn also took part, was established. This permanent committee decided at a session in London in December last year, to call a conference in Lac Beamport. The discussion dealt with 3 principal problems: The danger of the present situation, the means for reducing the intediate danger and the means for reducing tensions. The Permanent Committee proposed - which was approved - to call a conference in Austria in September of this year which ought to deal with the problem of peace in the atomic age. A.V. Topchiyev reported on the conference in Lac Beauport at a meeting of the , AS USSR, on May 9. At this conference, Presidium the Soviet Scientists spoke about the following problems:

Card 2/4

Co-Operation of Scientists in the Struggle Against SOV/30-58-7-15/49. Atomic War. On the Results Obtained at the Conference in Lac Beauport

- 1)A.V. Topchiyev: On the Present Situation and the Tasks of Scientists; on an International Scientific Exchange.
 2)A.V. Vinagradov: On the Connation of the Tests With Atomic Weapons of All Types.
- 5)D.V.Skobel'tsyn: On Remarks Concerning the Armaments Race and Discreament.
- 4)A. ... Kunin: How the Present Danger Is Judged by a Biologist.

 Concluding, Topchiyev said that the most important reports of
 the conference were forwarded to the heads of 15 States and to
 the General Secretary of the UNO... A.P. Vinogradov, and D.V. Skobeltayn completed the report delivered by Topchiyev. The Presidium,

 AS USSR, approved the activity displayed by the Soviet
 Delogates.

Card 3/4

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PHASE I BOOK EXFLOITATION

SOV/2292

Kuzin, Aleksandr Mikhaylovich

Chem ugrozhayut chelovechestvu yadernyye vzryvy (How Nuclear Explosions Threaten Mankind) Moscow, Izd-vo AN SSSR, 1959.129 p. (Series: Akademiya nauk SSSR. Naucino-populyarnaya seriya) 50,000 copies printed.

Ed.: A.V. Topchiyev, Academician; Ed. Of Publishing House: F.B. Shapiro; Tech. Ed.: T.P. Polenova.

PURPOSE: This book is intended for the general public.

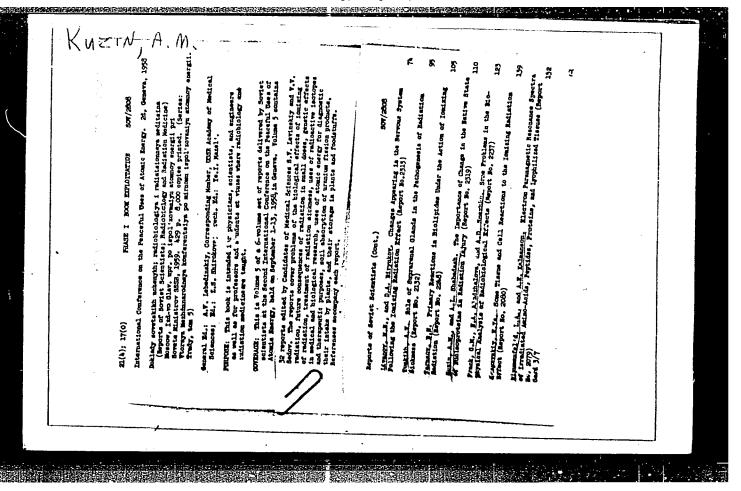
COVERAGE: The book discusses the harmful effects of experimental nuclear explosions, the resulting radioactive substances, ways in which these. substances penetrate into living organisms, and the consequences thereof. Statements by certain American scientists on nuclear experiments carried out by the United States and other governments are criticized. The author attempts to show that the continuation of these experiments is extremely dangerous. A short review is given of comments by scientists

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explosions for mankind and the necessity of supporting so-called "peaceful initiative of the Soviet Union". TABLE OF CONTENTS:	clear the No	
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Th. III. The Hydrogen Bomb	13	
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"APPROVED FOR RELEASE: Monday, July 31, 2000

CIA-RDP86-00513R000928010



KUZIN, A.M.; TOKARSKAYA, V.I. (Merenova)

Complete C_{III}-labeling of organic substances in plants as a method of studying metabolic disorders [with summary in English]. Biokhimila 24 no.1:80-86 Ja-F 159. (MIRA 12:4)

1. Institute of Biological Physics, Academy of Sciences of the U.S.S.R., Moscow.

(CARBON, radioactive,

labeling organic cpds. in investigation of plant metab. disord. (Rus))

(PLANTS, metabolism,

radiocarbon labeling organic cpds. in investigation of metab. disord. (Rus))

17(3), 17(4) AUTHOR:

Kuzin, A. M., Professor

sov/30-59-2-16/60

TITLE:

International Congress on Radiation Investigations (Mezhdunarodnyy kongress po radiatsionnym issledovaniyam)

PERIODICAL:

Vestnik Akademii nauk SSSR, 1959, Nr 2, pp 72-73 (USSR)

ABSTRACT:

The Congress took place in Burlington (USA) from August 10 until August 16, 1958. It had been convened by the National Academy of Sciences of the USA and the Association for Radiation Investigations. Scientists from 25 countries took part in the work. The members of the Soviet delegation were: N. A. Bakh, A. M. Kuzin, M. N. Meysel', V. A. Petrov and M. N. Pobedinskiy. The work was devoted to problems of radiobiology, radiation biochemistry, Academic radiation genetics etc. Among others, D. Kanazir (Jugoslavia) reported on the protective effect of high-polymeric nucleic acids and N. A. Bakh (USSR) spoke about general regularities of radiation oxidation of organic compounds.

Card 1/1 .

KUZIN, A.M.; KRYUKOVA, L.M.; SAYENKO, G.N.; YAZYKOVA, V.A. Formation of substances inhibiting cell division, growth and development of irradiated plants. Biofizika, 4 no.3:350-353 '59. (MIHA 12:7) 1. Institut biologicheskoy fiziki, Moskva. (RADIATIONS, eff. on plants, synthesis in irradiated plants of substances inhib. cell division & develop. (Rus)) (PIANTS, eff. of radiations, synthesis in irradiated plants of substances inhib. cell division & develop. (Rus)) (CELL DIVISION, same)

Biological problems at the second international conference of the UNO on the peaceful uses of atomic energy. Izv.AN SSSR.

Ser.biol. no.2:293-296 Mr-Ap '59.
(GENEVA--ATOMIC ENERGY--CONGRESSES)

(MIRA 12:5)

KUZIN, A.M.; TOKARSKAYA-MERENOVA, V.I.

Role of pyrimidine metabolism disorders in radiation injury.
Biofizika 4 no. 4:446-453 *59. (MIRA 14:4)

1. Institut biologicheskoy fiziki AN SSSR, Moskva. (RADIATION SICKNESS) (PYRIMIDINES)

KUZIN, A.M.; KARNAUKHOV, Yu.I.

Effect of ionizing radiations on the bioelectric potentials of plant seedlings. Biofizika 4 no. 6:714-719 159. (MIRA 14:4)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.
(ELECTROPHYSIOLOGY OF PLANTS) (PLANTS, EFFECT OF X RAYS ON)

APPROVED FOR RELEASE: Monday, July 31, 2000 CIA-RDP86-00513R0009280100

KUZIN, AM.

PHASE I BOOK EXPLOITATION SOV/5628

Akademiya nauk SSSR. Institut biologicheskoy fiziki

Rol' perekisey i kisloroda v nachal'nykh stadiyakh radiobiologicheskogo effekta (Role of Peroxides and Oxygen During Primary Stages of Radiobiological Effects) Moscow, 1960. 157 p. 4,500 copies printed.

Responsible Ed.: A. M. Kuzin, Professor; Ed. of Publishing House: K. S. Trincher; Tech. Ed.: P. S. Kashina.

PURPOSE: This collection of articles is intended for scientists in radiobiology and biophysics.

COVERAGE: Reports in the collection deal with the role of peroxides and oxygen in the primary stages of a radiobiological effect. They were presented and discussed at a symposium held December 25-30, 1958, organized by the Institut biofiziki AN SSSR, (Institute of Biophysics, AS USSR). Twenty-eight Moscow scientists, radiobiologists, radiochemists, physicists, and

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Role of Peroxides and Oxygen (Cont.) SOV/5628	
Kolomiytseva, I. K., and A. M. Kuzin [Institute of Biophysics, AS USSR]. Lipid Peroxides in a Normal and in an Irradiated Animal Organism	26
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Mikhlin, D. M. (Deceased) [Institut biokhimii im. A. N. Bakh AN SSSR - Institute of Biochemistry imeni A. N. Bakh, AS USSR Effect of Ionizing Radiation of Oxidation-Reduction Reactions in a Cell	
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"APPROVED FOR RELEASE: Monday, July 31, 2000 CIA-RDP86-00513R000928010

1.	
Role of Peroxides and Oxygen (Cont.)	
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physics, AS USSR]. Effect of Inert Gases on Oxidation Pro-	99
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Ardashnikov, S. N. Certain Regularities 45 45	136
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S/G81/62/000/003/022/090 B150/B101

AUTHORS: Kuzin, A. M., Kayushin, L. P., Kolomiytseva, I. K., L'vov,

K. M.

TITLE: Investigation by the electronic paramagnetic resonance method

of free radicals of some organic peroxides after irradiation

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 3, 1962, 78, abstract

3B541 (Sb. "Rol' perekisey i kisloroda v nach. stadiyakh

radiobiol. effekta", M., AN SSSR, 1960, 99 - 104)

TEXT: Benzoyl peroxide (I), dioxymethyl peroxide (II), and succinic acid peroxide (III) are irradiated (Co⁶⁰) at a dose rate of 550 r/min with a total dosage of 6·10-25·10 r. The electronic paramagnetic resonance spectra of I and II after irradiation have similar shapes and represent asymmetrical doublets, the result of superposition of the spectra of various radicals, with the peroxide radical being the most important one. It is found that unirradiated III is paramagnetic by the breaking of the 0-0 bonds in a part of the molecules. Its spectrum is a symmetrical quadruplet, with a ratio of intensities of 1:3:3:1 and a splitting of 19 gauss. Card 1/2

Investigation by the electronic...

D/081/62/000/003/022/090 B150/B101

With the irradiation of III and also of succinic acid and its anhydride, sextets develop with a width of 120, 100, and 85 gauss, respectively, probably as a result of the superposition of some electronic paramagnetic resonance signals. Abstracter's note: Complete translation.

在1000mm 1000mm 1000mm

Card 2/2

KUZIN, A.M°

Modern problems in radiobiology. Izv. AN SSSR. Ser. biol. no.3: 355-363 My-Je '60. (MIRA 13:7)

1. Institute of Biological Physics, Academy of Sciences of the U.S.S.R., Moscow.

(RADIOBIOLOGICAL RESEARCH)

KRYUKOVA, L.M.; KUZIN, A.M.

Indirect effect of ionizing radiations on plants. Biofizika 5 no. 4:450-453 '60. (MIRA 13:12)

1. Institut biologicheskoy fiziki AN SSSR, Moskva. (PLANTS, EFFECT OF X RAYS ON)

Modification of radiosensitivity in erythrocytes. Biofizika 5 no. 5:533-538 '60. (MIRA 13:10)

1. Institut biologicheskoy fiziki AN SSSR, Moskva. (ERYTHROCYTES) (GAMMA RAYS--PHYSIOLOGICAL EFFECT)

KUZIN, A.M.; BEREZINA, N.M.; SHLYKOVA, O.N.

Role of the dose rate in radiobiological effects on plants.
Biofizika 5 no. 5:566-569 '60. (MTRA 13:10)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.
(PLANTS, EFFECT OF GAMMA RAYS ON) (RADIATION-DOSAGE)

XUZIN, A.M.; KOPYLOV, V.A.

Oxidation-reduction disorders in plant tissues caused by ionizing radiations. Biofizika 5 no. 6:716-719 '60. (MIRA 13:10)

1. Institut biologicheskoy fiziki AN SSSR, Moskva. (OXIDATION-REDUCTION REACTION)

(PLANTS, EFFECT OF X RAYS ON)

KRYUKOVA, L.M.; KUZIN, A.M.

Distant effect of ionizing radiations in irradiated plants. Fiziol. rast. 7 no.2:220-222 '60. (MIRA 14:5)

1. Institute of Biophysics, U.S.S.R Academy of Sciences, Moscow. (Plants, Effect of radiation on)

KUZIN, A.M.; KRIUKOVA, L.M. [Kryukova, L.M.]; SAENKO, G.N. [Sayenko, G.N.]; IAZIKOVA, V.A. [Yazykova, V.A.]

Under irradiation action forming in plants of some substances which slow down the cell division, growth and development of plants. Analele biol 14 no.1:27-31 Ja-Mr *60.



S/030/60/000/009/004/016 B021/B056

21.6300

Kuzin, A. M., Corresponding Member AS USSR

AUTHOR: Kuzin, A. M.,

TITLE: The Danger of an Increase in Concentration of C14 in the

Atmosphere \V

PERIODICAL: Vestnik Akademii nauk SSSR, 1960, No. 9, pp. 48 - 51

TEXT: Up to the year 1954, the concentration of C¹⁴ has fluctuated only little in the course of the past millennia. Determinations of C¹⁴ in various geological and archeological samples showed that, in the course of the past 15,000 years, these fluctuations amounted to not more than 1.5 to 2%. Since 1954, the beginning of tests made with hydrogen bombs, the concentration of radioactive carbon has been found to increase rapidly both in the atmosphere and in living organisms. In 1957, this increase amounted to 8%, and in 1959 it attained 31%. As no tests were made in 1959, the increase in concentration alone in 1958 amounted to 23%. Should no agreement be arrived at with a view of completely stopping atomic weapon tests, and if the latter should be resumed at the

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Card 1/2

The Danger of an Increase in Concentration of S/030/60/000/009/004/016 B021/B056

same rate as in 1958, the natural C14 content in the atmosphere may be expected to be doubled within four years, and within 30 years an increase by 7- to 8-fold its amount would have to be reckoned with. Numerous investigations were carried out for the purpose of determining the biological danger, as, e.g., also by the author and B. M. Isayev, V. V. Khvostova, V. I. Tokarskaya-Merenova, and Yu. A. Bregadze (Ref. 9). Investigations carried out by N. P. Dubinin (Ref. 11) showed that, if tests should be carried out at the same rate as in 1958, up to 400,000 children will be born annually with serious genetic diseases owing to the contamination of the atmosphere by C 14. In 30 years (i.e., within one generation) 12 million persons would have to be expected to be born afflicted with serious genetic diseases, while 24 million children would be stillborn, and 48 million children would perish while in the embryonal state. Although the problem of the increased C14 content is of immediate importance, it does not attract the attention of scientists in a sufficient degree. Work carried out for the purpose of investigating the migration and accumulation of C14 in the biosphere are further described as inadequate. There are 12 references: 2 Soviet, 3 German, 3 US, and 4 British. Card 2/2

KUZIN, A.M.; ISAYEV, B.M.; KHVOSTOVA, V.V.; TOKARSKAYA, V.I.; BREGADZE,

Effectiveness of the biological action of C¹⁴ during its incorporation into living structures. Jokl.AN SSSR 134 no.4: (MIRA 13:9) 951-954 0 '60.

1. Institut biologicheskoy fiziki Akademii nauk SSSR. 2. Chlen-korrespondent AN SSSR (for Kuzin).

(CARBON--ISOTOPES)
(PLANTS, EFFECT OF RADIOACTIVITY ON)

KUZIN, Aleksandr Mikhaylovich; NEKHLYUDOVA, A.S., red.; NAZAROVA, A.S., tekhn.red.

[Natural sciences and practice] Estestvennye nauki i praktika. Moskva, Izd-vo "Znanie," Vses.ob-vo po rasprostraneniiu polit. i nauch.znanii, 1961. 39 p. (MIRA 14:6)

1. Chlen-korrespondent AN SSSR (for Kuzin). (Science)

KUZIN, Aleksandr Mikhaylovich, prof.; PARSADANOVA, K.G., red.;

VORONINA, R.K., tekhn. red.

[General biochemistry] Obshchaia biokhimiia. Moskva, Gos.
izd-vo "Vysshaia shkola," 1961. 253 p. (MIRA 15:2)

(Biochemistry)

"APPROVED FOR RELEASE: Monday, July 31, 2000 CIA-RDP86-00513R000928010

KUZIN, A.M., TRIMCHER, K.S.

"The Enzymatic Analysis of Erythrocyte Surface Layer Structure."

report presented at the Intl. Biophysics Congress, Stockholm, Sweden, 31 July - 4 August 1961.

Institute of Biophysics, USSR Academy of Science, Moscow, USSR.

APPROVED FOR RELEASE: Monday, July 31, 2000 CIA-RDP86-00513R0009280100

"APPROVED FOR RELEASE: Monday, July 31, 2000 CIA-RDP86-00513R000928010

KUZIN, A.M., KOLOMITSEVA, I.K., KAYUSHIN, L.P.

"Study of Animal Tissue Radicals during Irradiation by the ESR Technique."

report presented at the Intl. Biophysics Congress, Stockholm, Sweden, 31 July - L August 1961.

Institute of Biophysics, USSR academy of Science, Moscow, USSR.

KUZIN, A. M. (USSR)

"The Effect of Radiation on the State and Metabolism of DNA in the Living Cell."

Report presented at the 5th International Biochemistry Congress, Moscow, 10-16 August 1961

"APPROVED FOR RELEASE: Monday, July 31, 2000 CIA-RDP86-00513R000928010

KUZIT, A.M., KRYUKOVA, L.M., KOPYLOV, V.A., (USSE)

"Changes on Polyphenol Oxidase Activity in the Irradiated Plant and the Nature and Properties of the Metabolites Produced."

Report presented at the 5th Int'l. Biochemistry Congress, Moscow, 10-16 Aug 1961.

KUZIN, A.M.; STRAZHEVSKAYA, N.B.; STRUCHKOV, V.A.

Structural changes in the desoxyribonucleic acid of fat organs following total-body irradiation. Radiobiologia 1 no.1:10-13 (MINA 14:7)

1. Institut biologicheskoy fiziki AN SSSR, Moskva. (DESOXYRIBONUCLEIC ACID) (GAMMA RAYS—PHYSIOLOGICAL EFFECT)

TRINCHER, K.S.; KUZIN, A.M.

Effect of radiation protective agents on the surface layer of erythrocytes. Radiobiologiia 1 no.1:30-36 '61. (MIRA 14:7)

1. Institut biologicheskoy fiziki AN 883R, Moskva.
(RADIATION PROTECTION) (ERYTHROCYTES)

STRUCHKOV, V.A.; KUZIN, A.M.

Investigation of changes in the polimerization spectrum of desoxyribonucleic acid irradiated in vivo and exposed to the action of disoxyribonuclease in vitro. Radiobiologiia 1 no.2:153-160 '61. (MIRA 14:7)

1. Institut biologicheskoy fiziki AN SSSR, Moskva. (GAMMA RAYS—PHYSIOLOGICAL EFFECT) (DESOXYRIBONUCLEIC ACID)

KUZIN, A.M.; KRYUKOVA, L.M.

Rate and dose-dependence of the formation of antimitotic substances in irradiated leaves of Vicia faba. Radiobiolgoila 1 no.2:293-295
161. (MIRA 14:7)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.
(PLANTS, EFFECT OF X RAYS OF)
(GROWTH (PLANTS))

S/205/61/001/004/002/032 D298/D303

27.1220

AUTHORS:

Kuzin, A. M., Baranovskaya, I., Strazhevskaya, N. B.,

and Struchkov, V. A.

A study of change in the state of decxyribonucleic acid in Escherichia coli exposed to gamma-radiation TITLE:

PERIODICAL:

Radiobiologiya, v. 1, no. 4, 1961, 476-478

It was found that irradiation of hens in a dose of 2.5 kr led to an immediate change of 50% in the structuro-mechanical properties of the secreted polymolecular deoxyribonucleic acid (DRN) complexes. This points to disturbance of the crude state of DRN in the cell. To check whether this phenomenon has a general significance in radiation biology, the authors studied the state of DRN in E. coli before and after irradiation. The DRN state and the effects of radiation at various stages in the bacterial strain's development were also studied. Tests Tests were run on a young 16-hour and a stationary 46-hour culture of

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A study of change...

E. coli var. B, irradiated by gamma-rays from a Co source in a dose of 4 kr (LD₃₁ for the particular strain) at an intensity of 450 r/min. and at 37° and 20°C. The structure-mechanical properties of the MN were measured with a capillary elastoviscosimeter at 25°C and the results expressed as values of the relative viscosity \(\gamma\) rel . The results showed that DRN in the young E. coli culture was in a special state, characterized by the high structure-mechanical properties of its solutions (\gamma\) rel 200 dl/g). The stationary E. coli culture contained MN in a qualitatively different state, with a \(\gamma\) rel value of 100 dl/g. Immediately after irradiation, changes of 50% in the structure-mechanical properties of the DRN were noted in the young E. coli culture, whereas in the old culture these properties showed no practical change. The authors deduce from this that there is a special state of DRN characteristic of young mitotic cells, and that this is linked directly with their sensitivity to radioactivity. There are 2 tables and 4 references:

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A study of change...

2 Soviet-bloc and 2 non-Soviet-bloc. The references to the Englishlanguage publications read as follows: G. E. Stapleton, J. Bacteriol., 70, 357, 1953; J. M. Webb, H. B. Levy, J. Biol. Chem., 213, 107, 1959.

ASSOCIATION 8

Institut biologicheskoy fiziki AN SSSR (Institute of

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SUBMITTED:

April 26, 1961

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S/205/61/001/004/025/032 D298/D303

AUTHOR:

Kuzin, A. M.

TITLE:

The theoretical principles of the method of presowing

irradiation of seeds

PERIODICAL:

Radiobiologiya, v. 1, no. 4, 1961, 598-603

TEXT: The author collates the results of various research works on the presowing irradiation of seeds. Since the radiation doses used may inflict profound lesions on living structures, the author studies the possible changes in irradiated seeds in the light of modern data on the mechanisms of the action of radiation on living structures. The indications are that irradiation of air-dried seeds with a moisture content of about 12% induces a great many free radical centers which have accumulated absorbed energy. Activation of the macromolecules will persist lated absorbed energy. Activation of the macromolecules will persist for a long time due to the difficulty of oxygen reaching them, the absence of free water and temperature factors. During irradiation, the energy of the falling photons is absorbed at random and evenly in the

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The theoretical principles...

various sections of the seed. This absorbed energy migrates through the spatially ordered systems of macromolecules and forms radically active centers at definite spots, obviously corresponding to the most vulnerable structures. Due to dissimilar moisture content of the various microstructures of the seed and the varying ease of oxygen access to them, the fate of these active centers will vary in the course of the time which elapses between irradiation and sowing. The temperature at time which elapses between irradiation and sowing must play a substantial role. In a hot climate, the optimum radiation doses would be higher tial role. In a hot climate, the optimum radiation doses would be higher than in northern areas. During the swelling process, the oxygen reacts with the free high-polymer radicals and touches off rapid chain reactions of the type:

$$R^{**} + 0_{2} \longrightarrow R - 0 - 0^{*}$$

$$R - 0 - 0^{*} + RH \longrightarrow R00H + R^{*}$$

$$R^{*} + 0_{2} \longrightarrow R - 0 - 0^{*}, \text{ etc.}$$

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